

before they were so exceeding hard, that they could not be broken without much difficulty; and upon their breaking the whole drop would fly in pieces with very great violence. The Reason of which last seems to be, that the leisurely heating and cooling of the parts does not only waſt ſome part of the Glaſſe it ſelf, but ranges all the parts into a better order, and gives each Particle an opportunity of *relaxing* its ſelf, and conſequently neither will the parts hold ſo ſtrongly together as before, nor be ſo difficult to be broken: The parts now more eaſily yielding, nor will the other parts fly in pieces, becauſe the parts have no bended Springs. The *relaxation* alſo in the temper of hardned Steel, and hammered Metals, by nealing them in the fire, ſeems to proceed from much the ſame cauſe. For both by quenching ſuddenly ſuch Metals as have *vitriſied* parts interſpers'd, as Steel has, and by hammering of other kinds that do not ſo much abound with them, as Silver, Braſs, &c. the parts are put into and detained in a bended poſture, which by the agitation of Heat are ſhaken, and looſened, and ſuffered to unbend themſelves.

Obſerv. VIII. Of the fiery Sparks ſtruck from a Flint or Steel.

Schem. 5.

It is a very common Experiment, by ſtriking with a Flint againſt a Steel, to make certain fiery and ſhining Sparks to fly out from between thoſe two compreſſing Bodies. About eight years ſince, upon caſually reading the Explication of this odd *Phænomenon*, by the moſt Ingenious *Des Cartes*, I had a great deſire to be ſatisfied, what that Subſtance was that gave ſuch a ſhining and bright Light: And to that end I ſpread a ſheet of white Paper, and on it, obſerving the place where ſeveral of theſe Sparks ſeemed to vaniſh, I found certain very ſmall, black, but glittering Spots of a movable Subſtance, each of which examining with my *Microſcope*, I found to be a ſmall round *Globule*; ſome of which, as they looked pretty ſmall, ſo did they from their Surface yield a very bright and ſtrong reflection on that ſide which was next the Light; and each look'd almoſt like a pretty bright Iron-Ball, whoſe Surface was pretty regular, ſuch as is repreſented by the Figure A. In this I could perceive the Image of the Window pretty well, or of a Stick, which I moved up and down between the Light and it. Others I found, which were, as to the bulk of the Ball, pretty regularly round, but the Surface of them, as it was not very ſmooth, but rough, and more irregular, ſo was the reflection from it more faint and confuſed. Such were the Surfaces of B. C. D. and E. Some of theſe I found cleft or cracked, as C, others quite broken in two and hollow, as D. which ſeemed to be half the hollow ſhell of a Granado, broken irregularly in pieces. Several others I found of other ſhapes; but that which is repreſented by E, I obſerved to be a very big Spark of Fire, which went out upon one ſide of the Flint that I ſtruck fire withall, to which

